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March 22, 2021

Town of Old Lyme
Inland Wetlands and Watercourses Commission
c/o Kim Groves, Land Use Administrator
52 Lyme Street
Old Lyme, CT 06371

RE: Project Plan Review – Wetland Related, by Thomas E. Metcalf, P.E.

Dear Ms Groves:

This letter is our response to Thomas E. Metcalf's review of our project plan. Mr. Metcalf's comments are reproduced below. Each is followed by our response in *Italic text*.

3. In general, stormwater runoff from the developed site will be directed to an infiltration system adjacent to Neck Rd. and to an excavated infiltration basin adjacent to Halls Rd. The excavated infiltration basin will have a piped 'overflow' connection to the existing storm drainage system within the Neck Rd., aka Conn. Rte. 1 right of way.
To properly assess the viability of both drainage infiltration systems it is necessary to have an understanding and knowledge of soil characteristics, soil permeability's, groundwater depths/elevations (or lack thereof). The plans show the location of 'Test Pits' at several locations on the site. In discussing this with Ryan Scrittorale, P.E., Project Engineer, he noted that the Test Pits are proposed and he will provide the information when completed and logged. Lacking the soil and groundwater data, I cannot provide you with an assessment.
Geotechnical testing was performed on March 11 and 12, 2021. The results are being Compiled into the geotechnical report and will be provided once completed. Preliminary indications are favorable for the infiltration basins proposed.
4. Considering the proposed overflow connection from the infiltration basin adjacent to Halls Rd. to the existing drainage system within the State Right of Way, the applicant should apprise the Commission of the status of the Connecticut Department of Transportation (CTDOT) review of the project. Additionally, the applicant should apprise the Commission of status of the CTDOT review of the driveway entrance along Neck Rd. Since the proposed driveway from the proposed building and parking area to Neck Rd. is predominately within the 100 ft. Upland Review Area, the acceptance by CTDOT of the driveway entrance at Neck Rd. is important in the Commission's review.
The plans and drainage report for the project were submitted to the CT DOT on March 9, 2021 for their review/comment on the design. We have subsequently inquired as to the Department's initial response to the submission but have not had any official word yet. Official responses from the Department will be forwarded to Town for review.
5. Based on information noted in Martin Brogie's Wetland Assessment Report it appears there is a vernal pool on the adjacent Farnham property. This would increase the Upland Review Area to

400 feet from the vernal pool, which depending on the location of the vernal pool would appear to encompass a major portion of the property.

Martin Brogie, Inc. will assess the Vernal Pool on the adjacent property once he has been given permission to enter into the Farnham property and adequately assess the validity of the vernal pool. As of right now we have not been given access to the Farnham property. When the vernal pool limits have been adequately assessed we will update the plans for the 400 foot buffer.

6. As proposed, some surface stormwater runoff will be redirected away from the identified wetlands and vernal pool. The proposed driveway to Neck Rd. captures some stormwater that currently flows to the wetland area and vernal pool via surface sheet flow. As proposed, the stormwater runoff is (re)directed to the excavated infiltration basin adjacent to Halls Rd. by including 6" curbing along the driveway and placement of a catch basin that is piped to the infiltration basin. In Eric Davison's February 17, 2021 letter to the Commission, he notes; "11. Maintain pre-construction hydrology to the vernal pool. Do not increase or reduce surface and groundwater flows in order to maintain the existing vernal pool hydroperiod. (i.e., depth and duration of standing water)." The applicant should address the redirecting of surface runoff from the wetland area and vernal pool to the excavated infiltration basin in light of Mr. Davison's comment.

We will adjust the plans to ensure that existing drainage patterns are maintained and provide adequate treatment of the stormwater prior to discharge. Also tideflex pinch valves will be utilized at pipe outlets in order to prevent animals from the vernal pool to migrate into the systems.

7. If the 6" curbing along the north side of the driveway is determined to be acceptable as a barrier to restrict amphibian migration, a regular inspection and maintenance procedure of the curbing should be implemented. Generally, curbing along a driveway or roadway is 'backed' with soil which provides stability to the curbing. The curbing as proposed with a 6" reveal on both sides will be more susceptible to damage and displacement especially by snow-plows. Regular inspection and maintenance/repair will assure the performance of the curbing as an amphibian barrier and for storm water drainage purposes. If it is determined that the curbing is not sufficient or needed as an amphibian barrier I recommend that the curbing be backfilled in a traditional manner.

Per the recommendation of Davison Environmental we will be implementing a 2-foot barrier fence and therefore would be backfilling the curbing as in standard practices.

8. I suggest the clearing limits be field staked by a land surveyor prior to construction. Also, the limits of the wetlands should be clearly identified in the field throughout the construction period to avoid accidental encroachment. This is of particular importance for the wetland limit identified from WF-4 through WF-8 on the plans.

A note will be added to the plans for the clearing limits to be staked by a land surveyor. Prior to construction we will also ensure that Martin Brogie, Inc. has revisited the site and confirm that the wetland flags are still in their correct locations.

9. During construction, the storage of equipment, vehicles and materials should be as remote as possible from the wetland area and vernal pool.

A note will be added to the plans to ensure the selected contractor complies.

10. Notes on the *Grading and Drainage Plan, Sheet C-2.0* for the maintenance and operation of the excavated infiltration basin adjacent to Halls Rd. simply refer to the '*Connecticut Stormwater Quality Manual*' (Manual). While the Manual does include comprehensive information and guidance on the maintenance and operation of infiltration basins and rightfully should be referenced, it would be helpful and practical to provide a brief outline of necessary measures on the Plan itself and reference specific sections of the Manual for detailed information.

A brief outline will be added to the plan for clarification to the contractor.

11. The construction of the excavated infiltration basin adjacent to Halls Rd. warrants additional inspections and material(s) verification beyond general site construction inspections. Detail 2 Infiltration Basin on Sheet C-5.2 notes this. To avoid any confusion, I suggest the Commission condition any approval by requiring the design engineer to perform inspections, verification of materials and completed basin elevations. A final inspection report or acknowledgement should be provided to the Commission.

The applicant agrees to the outlined inspections and will add notes to the plan for the contractor to notify the engineer during critical times as outlined for inspection. A final inspection report will be provided to the commission.

12. I suggest that a pre-construction site meeting be held with the owner or owner's representative, the site contractor, person(s) in charge of erosion control measures and a representative from the Old Lyme Land-Use Office to review project scheduling and erosion control matters.

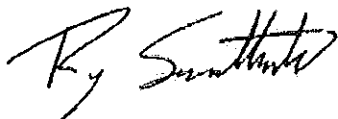
A note will be added to the plans for a pre-construction meeting.

13. The Commission should determine if the posting of a bond for the maintenance and inspection of erosion control measures associated with construction activities is appropriate and necessary.

The applicant will agree to what the Commission determines as an appropriate bond if the Commission determines that a bond is required, within reason.

If you have any questions regarding any of the responses to the comments as outlined please don't hesitate to request additional information.

Sincerely,



Ryan Scrittorale, PE
Project Manager



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March 22, 2021

Town of Old Lyme
Inland Wetlands and Watercourses Commission
c/o Kim Groves, Land Use Administrator
52 Lyme Street
Old Lyme, CT 06371

RE: Review of application for regulated activities by Davison Environmental date February 17, 2021.

Dear Ms Groves:

This letter is our response to Eric Davison's review of our project plan. Mr. Davison's comments are reproduced below. Each is followed by our response in *Italic text*.

Wetland Delineation:

1. Due to the snow cover I did not conduct a detailed review of the wetland boundary. However, the limits of the wetland were consistent with the elevational slope break and the transition of vegetation types from wetland to non-wetland dominant plant species. Moreover, the wetland boundary aligns with the previous delineation of this wetland as shown in the 2006 application materials submitted for 29 Neck Road. I do not believe a more thorough review of the wetland boundary is necessary.

No response required.

Wetland Functions and Values Assessment

2. Mr. Brogie provides an evaluation of the wetland functions and values using the ubiquitous "highway methodology" developed by the U.S. Army Corp of Engineers. He provides a description of the wetland's applicable functions and values and concludes that the overall functions and values are limited due to natural physical constraints (i.e., the wetland is isolated on the landscape) as well as the land- uses surrounding this wetland. I concur with his findings and conclusions.

No response required.

Wetland Impacts

3. No direct wetland impacts are proposed, only activities within the Upland Review Area (URA). The total URA activity (in square feet) was not noted in the application materials or site plans.

A note will be added for the URA disturbance once we fully understand the limits of the vernal pool and whether the 100 foot URA is utilized or the 400 foot.

4. URA activities are associated only with the proposed access drive leading west to Neck Road. Grading is proposed to occur less than 10 feet from the closest point of

the wetland (at wetland flag #6) based on my calculations, although the application indicates 10-12 feet of separation distance.

A dimension will be added to the closest point of disturbance to the limits of the wetlands.

5. In general, activities proposed on the eastern parcel (99 Halls Road) are less likely to affect the wetland, as this parcel contains little native vegetation or undisturbed (native) soils, and much of the site drains away from the wetland.

No response required.

6. Activities proposed on the western parcel (25 Neck Road) should be examined more carefully, as this area contains some of the only remaining undisturbed and forested wetland buffer habitat, as well as a large portion of the wetland's watershed.

Understood and acknowledged. Benesch and Martin Brogie will examine this area and work with Mr. Davison on an appropriate level of improvements to maintain an appropriate level of wetland buffer and the watershed.

Vernal Pool Impact Mitigation Measures

In the absence of detailed vernal pool data, a number of standard best management practices could be implemented to better preserve vernal pool (and other wetland-dependent wildlife) habitat within the subject wetland. These include:

7. The greatest potential for impact is associated with the proposed access drive to Neck Road, as this disturbance lies in close proximity to the vernal pool and will result in loss of additional tree cover surrounding the pool. Elimination of this access drive would greatly reduce the potential for impacts to vernal pool habitat.

Given that the proposed access drive is to be located as close as possible to the already improved and environmentally inhospitable (at least for obligate species that may possibly migrate in this direction) Essex Savings Bank site, we believe the better alternative is to provide protection for the obligate species that does not currently exist while retaining the needed access drive.

8. Proposed activities on 99 Halls Road would have a lesser effect on the vernal pool with respect to direct loss of terrestrial habitat due to the lack of vegetive cover. The primary potential for impact would be associated with secondary impacts associated with noise and lighting, or alterations to the vernal pool hydrology.

No response required. Our office will take a closer look to see if there are any additional noise and lighting impact safeguards that could be added to the plans.

9. The proposed 6" concrete amphibian barrier is inadequate to restrict amphibian access into the developed areas of the site. While a 6" barrier may be adequate to restrict some (but not likely all) salamander movement, it would be inadequate to restrict access of any frog or toad species in Connecticut. Barrier fencing with a minimum height of 2 feet would be required. Products such as those designed by Animex (www.animexfencing.com) should be considered. Additionally, the fencing

should be extended to the limits of disturbance and they should terminate in a roughly 90 degree turn to “deflect” movement away from the developed portions of the site.

We will adjust the design to incorporate a 2 foot barrier fence in lieu of the 6” barrier curb.

10. Avoiding construction during the breeding and juvenile dispersal period (ca. March – June) would greatly minimize impacts to vernal pool wildlife.

Our client will avoid construction of the access road on 29 Neck road during the breeding and juvenile dispersal period.

11. Maintain pre-construction hydrology to the vernal pool. Do not increase or reduce surface and groundwater flows in order to maintain the existing vernal pool hydroperiod (i.e., depth and duration of standing water).

We will adjust the design to not adversely affect the hydrology to the vernal pool. Grading, drainage and the stormwater report will be adjusted accordingly to prove as such.

12. Vernal pool wildlife are susceptible to noise and visual disturbances during the breeding season. To minimize noise and visual disturbance to migrating and breeding amphibians, I would recommend installing a vegetated buffer of evergreen trees that will reduce the penetration of light and noise and create a visual barrier from the development. A staggered double row of tightly planted (ca. 15ft on center) of white pine (*Pinus strobus*) or arborvitae (Green Giant variety is deer resistant), or other dense needle evergreen would be suitable.

We will incorporate the recommended vegetated buffer and adjust the landscaping plan accordingly.

13. If outdoor lighting is proposed, utilize directional lighting that prevents spillage of light from the development towards the vernal pool, as lighting at night can affect the nighttime breeding chorusing and disorient migrating amphibians.

We will design the lighting to incorporate the recommended measures to not negatively affect the vernal pool.

Erosion and Sedimentation Control Measures

14. The proposed erosion and sedimentation control barrier between the LOD and the wetland consists of geotextile silt fencing coupled with trenched haybales. These are appropriate measures that comply with the 2002 Connecticut Guidelines for Erosion and Sedimentation Control.

No response required.

15. The overall risk of sediment discharge to wetlands during construction is low due to

the relatively gentle grades and overall small scale of the project. The primary area of concern is the access drive to Neck Road where grading activities will come within ± 10 feet of the wetland. This leaves little room for the settling out of sediment before reaching the wetland, should a breach occur.

We will utilize a double row of the proposed E&S measures within this area to ensure that a breach won't occur.

Stormwater Treatment Plan

16. A combination of curbing and catch basins capture stormwater runoff and direct that runoff to either an underground ADS chamber located near Neck Road, or an infiltration basin located adjacent to Halls Road. The infiltration basin will handle most of the stormwater runoff.

No response required.

17. These measures are capable of capturing and treating typical stormwater constituents associated with the proposed use (i.e., hydrocarbons, sand/salt, fertilizers and pesticides). They are also suitable to properly store/attenuate stormwater peak flows and runoff volume.

No response required.

18. A test pit was conducted within the proposed basin (TP1). I was not provided the test pit data, but assuming there is adequate separation distance to groundwater, the basin, which includes an organic soil material and wetland plantings (WetMix seed mix) should provide adequate treatment of stormwater constituents.

Our office will provide the results for the test pits once the geotechnical report has been issued.

19. The Applicant should consider whether a sediment forebay would improve the function, longevity and ease of maintenance of the infiltration basin.

A sediment forebay will be added to the plans. The forebay will be designed to meet the required 10% WQV.

20. It should be noted that curbing, catch basins and underground stormwater chambers are all measures that are not appropriate for use in close proximity to vernal pools, as amphibians can become trapped and killed. Provided that an appropriate amphibian barrier can be installed, the potential for this impact can be mitigated.

Refer to response for comment number 9.

21. Consider using "no mow" grass as an alternative to traditional lawn grass, as these blends require little to no fertilizer or water.

We can adjust the plans to incorporate "no mow" grass within the upland review area if

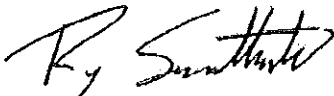
the commission would prefer this alternative.

22. Note that my comments do not consider any potential for groundwater contamination that might be associated with the installation of subsurface fuel storage tanks. Such an evaluation is outside of my area of expertise.

The proposed system (underground fuel storage system) will incorporate modern double wall systems with leak prevention and a monitoring system. Previously this site was developed with a bulk fueling facility. As part of this development our client will be examining all soils that are excavated and remediating any "contaminated soils" and therefore improving the overall quality of the groundwater that is the vicinity of the vernal pool and wetlands.

If you have any questions regarding any of the responses to the comments as outlined please don't hesitate to request additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Ryan Scrittorale".

Ryan Scrittorale, PE
Project Manager



Thomas E. Metcalf, P.E., L.S.
Civil Engineer & Land Surveyor

12 March 2021

Rachael Gaudio, Chairwoman
Old Lyme Inland Wetlands & Watercourses Commission
Memorial Town Hall
52 Lyme Street
Old Lyme, CT 06371

via e-mail & USPS

**Re: Big Y Express Convenience Store
Big Y Foods / Tony Coppola
95 Halls Rd. & Neck Rd.
Project Plan Review – Wetland Related
00-892.115**

Dear Ms. Gaudio and Commission Members,

At your request I have reviewed the information you provided me for the proposed Big Y Express Convenience Store (project hereafter) at 95 Halls Rd. and also fronting on Neck Rd. While I have attempted to limit my review to matters generally associated within your jurisdiction, because of the interconnection of the overall proposed site improvements, there may be some comments that are not applicable to you and beyond your jurisdiction. I would like to offer the following for your consideration.

1. The information provided to me and reviewed.
 - a. A set of plans, 14 sheets total reflecting a date of December 21, 2020 on the Cover Sheet. The plans were prepared by Ryan G. Scrittorale, P.E. of Benesch.
 - b. *Stormwater Management Report* dated December 21, 2020 prepared by Ryan G. Scrittorale, P.E. of Benesch.
 - c. *Wetland Assessment Report* dated November 2020 prepared by Martin Brogie, Inc. Environmental Services.
 - d. Letter dated February 17, 2021 from Eric Davison of Davison Environmental to Town of Lyme Inland Wetlands and Watercourses Commission.
 - e. *Application To Conduct a Regulated Activity* by Tony Coppola, Agent dated December 15, 2020.

2. In addition to reviewing the provided information, I have visited the property on several occasions to view existing conditions.

16 Woodland Road
Deep River, Connecticut 06417

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tmetcalf100@comcast.net

3. In general, stormwater runoff from the developed site will be directed to an infiltration system adjacent to Neck Rd. and to an excavated infiltration basin adjacent to Halls Rd. The excavated infiltration basin will have a piped 'overflow' connection to the existing storm drainage system within the Neck Rd., aka Conn. Rte. 1 right of way.

To properly assess the viability of both drainage infiltration systems it is necessary to have an understanding and knowledge of soil characteristics, soil permeability's, groundwater depths/elevations (or lack thereof). The plans show the location of 'Test Pits' at several locations on the site. In discussing this with Ryan Scrittorale, P.E., Project Engineer, he noted that the Test Pits are proposed and he will provide the information when completed and logged. Lacking the soil and groundwater data, I cannot provide you with an assessment.

4. Considering the proposed overflow connection from the infiltration basin adjacent to Halls Rd. to the existing drainage system within the State Right of Way, the applicant should apprise the Commission of the status of the Connecticut Department of Transportation (CTDOT) review of the project. Additionally, the applicant should apprise the Commission of status of the CTDOT review of the driveway entrance along Neck Rd. Since the proposed driveway from the proposed building and parking area to Neck Rd. is predominately within the 100 ft. Upland Review Area, the acceptance by CTDOT of the driveway entrance at Neck Rd. is important in the Commission's review.

5. Based on information noted in Martin Brogie's *Wetland Assessment Report* it appears there is a vernal pool on the adjacent Farnham property. This would increase the Upland Review Area to 400 feet from the vernal pool, which depending on the location of the vernal pool would appear to encompass a major portion of the property.

6. As proposed, some surface stormwater runoff will be redirected away from the identified wetlands and vernal pool. The proposed driveway to Neck Rd. captures some stormwater that currently flows to the wetland area and vernal pool via surface sheet flow. As proposed, the stormwater runoff is (re)directed to the excavated infiltration basin adjacent to Halls Rd. by including 6" curbing along the driveway and placement of a catch basin that is piped to the infiltration basin. In Eric Davison's February 17, 2021 letter to the Commission, he notes; "*11. Maintain pre-construction hydrology to the vernal pool. Do not increase or reduce surface and groundwater flows in order to maintain the existing vernal pool hydroperiod. (i.e., depth and duration of standing water).*" The applicant should address the redirecting of surface runoff from the wetland area and vernal pool to the excavated infiltration basin in light of Mr. Davison's comment.

7. If the 6" curbing along the north side of the driveway is determined to be acceptable as a barrier to restrict amphibian migration, a regular inspection and maintenance procedure of the curbing should be implemented. Generally, curbing along a driveway or roadway is 'backed' with soil which provides stability to the curbing. The curbing as proposed with a 6" reveal on both sides will be more susceptible to damage and displacement especially by snow-plows. Regular inspection and maintenance/repair will assure the performance of the curbing as an amphibian barrier and for storm water drainage purposes. If it is determined that the curbing is not sufficient or needed as an amphibian barrier I recommend that the curbing be backfilled in a traditional manner.

8. I suggest the clearing limits be field staked by a land surveyor prior to construction. Also, the limits of the wetlands should be clearly identified in the field throughout the construction period to avoid accidental encroachment. This is of particular importance for the wetland limit identified from WF-4 through WF-8 on the plans.

9. During construction, the storage of equipment, vehicles and materials should be as remote as possible from the wetland area and vernal pool.

10. Notes on the *Grading and Drainage Plan, Sheet C-2.0* for the maintenance and operation of the excavated infiltration basin adjacent to Halls Rd. simply refer to the '*Connecticut Stormwater Quality Manual*' (Manual). While the Manual does include comprehensive information and guidance on the maintenance and operation of infiltration basins and rightfully should be referenced, it would be helpful and practical to provide a brief outline of necessary measures on the Plan itself and reference specific sections of the Manual for detailed information.

11. The construction of the excavated infiltration basin adjacent to Halls Rd. warrants additional inspections and material(s) verification beyond general site construction inspections. Detail 2 Infiltration Basin on Sheet C-5.2 notes this. To avoid any confusion, I suggest the Commission condition any approval by requiring the design engineer to perform inspections, verification of materials and completed basin elevations. A final inspection report or acknowledgement should be provided to the Commission.

12. I suggest that a pre-construction site meeting be held with the owner or owner's representative, the site contractor, person(s) in charge of erosion control measures and a representative from the Old Lyme Land-Use Office to review project scheduling and erosion control matters.

13. The Commission should determine if the posting of a bond for the maintenance and inspection of erosion control measures associated with construction activities is appropriate and necessary.

As I previously noted, I have attempted to limit my review to matters generally associated within your jurisdiction. This review should not be considered comprehensive for the overall proposal. Upon your review of my comments should you have any questions or would like me to address a specific matter, please do not hesitate to contact me.

Very truly yours,



Thomas E. Metcalf, P.E., L.S.

cc. via e-mail only
D. Bourret, ZEO, WEO
OL Zoning Commission
R. Scrittorale, P.E., Benesch (for distribution to applicant and owner)